

## Section 3-1 Organizing the Elements

*The diagram at the right is a square from the periodic table. Label the four facts shown about each element.*

47	_____	1. _____
Ag	_____	2. _____
Silver	_____	3. _____
107.868	_____	4. _____

5. What does the atomic number tell about the element above?
6. What does the atomic mass tell about the element above?
7. In what order did Mendeleev arrange the elements in the periodic table?
8. What can you predict about an element from its position in the periodic table?

### **Vocabulary**

*From the list below, choose the term that best completes each sentence.*

atomic mass unit (amu)	electron	family	group
neutron	nucleus	period	proton
periodic table			

9. A(n) \_\_\_\_\_ is a positively charged particle in the nucleus.
10. An element's \_\_\_\_\_ is its row in the periodic table.
11. The central core of an atom is called the \_\_\_\_\_.
12. A(n) \_\_\_\_\_ carries a negative electrical charge, and is located outside an atom's central core.
13. Mendeleev was the first to arrange elements according to their properties in a(n) \_\_\_\_\_.
14. Element in a(n) \_\_\_\_\_ or \_\_\_\_\_ or the periodic table have similar characteristics.
15. A(n) \_\_\_\_\_ is a particle in the nucleus that has no charge.
16. Scientists use the \_\_\_\_\_ to measure the mass of the particle within the atom.

## Section 3-2 Metals

*Answer the following questions using the periodic table in appendix D or your agenda.*

1. Sodium (Na) and calcium (Ca) are in different families (groups) of metals. Name the families of metals in which they belong and describe each family's characteristics.

Na ---family \_\_\_\_\_  
 Characteristics of that family: \_\_\_\_\_

Ca ---family \_\_\_\_\_  
 Characteristics of that family: \_\_\_\_\_

2. What category of element (metal, non-metal, metalloid) is most common in the periodic table? \_\_\_\_\_ Where is that category found in the periodic table? \_\_\_\_\_

### **Vocabulary**

*Write the correct term from the words below to complete each sentence.*

conductor	ductile	magnetic	alloy
corrosion	reactivity	malleable	

3. The gradual wearing away of a metal element due to a chemical reaction is \_\_\_\_\_
4. A material that is \_\_\_\_\_ can be pounded into shapes.
5. A(n) \_\_\_\_\_ material is attracted to magnets and can be made into a magnet.
6. A(n) \_\_\_\_\_ transmits heat and electricity easily.
7. A material that is \_\_\_\_\_ can be drawn into a wire.
8. \_\_\_\_\_ is the ease and speed with which an element combines with other elements and compounds.
9. A(n) \_\_\_\_\_ is a mixture of metals.

Name \_\_\_\_\_ Period \_\_\_\_\_

## Section 3-3 Nonmetals and Metalloids

Complete the following table. Use the periodic table in your book or agenda.

Element	Is it a metal, nonmetal or metalloid?	Family (group) name
Arsenic	1.	
Sulfur	2.	
Tin	3.	
Neon	4.	
Chlorine	5.	
Silicon	6.	

7. Where in the periodic table are the nonmetals located? \_\_\_\_\_

Where are the metalloids? \_\_\_\_\_

8. What element is not grouped with other in a family? \_\_\_\_\_ What is its unusual atomic structure? (look at protons, neutrons, and electrons) \_\_\_\_\_

### Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

\_\_\_\_\_ 9. halogen family

a. a type of element that has some of the characteristics of metal and some of nonmetals

\_\_\_\_\_ 10. metalloid

b. a family of un-reactive elements

\_\_\_\_\_ 11. noble gas

c. a substance that carries electricity under certain circumstances, but not under other circumstances

\_\_\_\_\_ 12. nonmetals

d. a family of very reactive nonmetal elements

\_\_\_\_\_ 13. semiconductor

e. elements whose physical properties are generally opposite to those of metals